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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,997	04/20/2004	David W. Caldwell	37041-11481	6796
2574	7590	06/08/2006	EXAMINER	
JENNER & BLOCK, LLP ONE IBM PLAZA CHICAGO, IL 60611			ARBES, CARL J	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/828,997	Applicant(s) CALDWELL ET AL.	
	Examiner C. J. Arbes	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>herein</u> . | 6) <input type="checkbox"/> Other: _____ |

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Applicants' response to the Office Restriction Requirement has been duly noted. The Restriction mailed on or about 01 March 2006 is held to have been proper and correct. In view of this holding and further in view of Applicants' response thereto the Restriction is hereby and now **made Final**. Applicants therefore are required to cancel all non-elected claims or take other appropriate action.

An Office Action on the merits of claims 1-19 follows.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese No. 03-221922, by Yuichi et al, hereinafter Yuichi et al.

Yuichi et al teach a method of making a selective formation of conductor wirings or an electrical circuit by forming a second conductive material on a first conductive transparent conductive film. An electroless Ni plating layer is formed on the wirings or circuits. An IC chip and chip parts are electrically connected by means of a solder connection between the conductor circuits. The transparent conductive film can be ITO Indium-Tin-Oxide or SnO(sub2). Conductive films are sputtered onto the transparent substrate and circuits are formed by means of etching. Electroless Nickel plating is then placed onto the circuits. (Cf. Abstract) It would have been obvious to e.g. selectively etch the first and second conductive materials after depositing the first and second conductive layers assuming arguendo that Yuichi et al do not expressly teach

these steps inasmuch as objects of both the applied prior art and Applicants' claimed invention are substantially the same i.e. to fabricate an electrical circuit by said depositing and etching steps and having a soldered electrical component thereon. It remains to be seen however if the Yuichi et al teaching expressly discloses what Applicants are claiming inasmuch as the Patent Office awaits a full and complete translation of this foreign document. As applied to claim 4 it would have been obvious to use Copper for the second conductive material inasmuch as this metal is relatively cheap and is used extensively and universally for electrical circuits and this is very well known. Moreover Copper offers an excellent material where one is interested in soldering an electrical component to a circuit. This also is well known in this art. As applied to claim 7 it is also held to have been obvious to a PHOSITA to deposit a third conductive material for the creation of an electrical circuit again assuming arguendo that Yuichi et al do not expressly teach such limitation. The fact of the matter however is that it is believed that Yuichi et al do teach a third conductive material e.g. when they teach the use of electroless Nickel plating. As applied to claim 9 it is held that one of ordinary skill in this art, given the evidence in the prior art would provide that the second conductive material would be Niobium inasmuch as this metal is substantially the same in chemical characteristics as Sn (Tin) and moreover it is seen in the Abstract in Yuichi et al that Indium (ITO) and SnO₂ are deemed as equivalents. As applied to claim 10 wherein Applicant uses Copper for the third conductive material and Yuichi et al uses Nickel it is held that this difference cannot be patentable inasmuch as a PHOSITA without undue experimental effort use Copper instead of Nickel. As applied to claims 13

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and 14 it is also held that these limitation recited therein would have been obvious to a PHOSITA at the time that this Application was filed since a step of sputtering involves a vacuum and it is almost always better whenever the deposited conductive material adheres to a substrate. The PHOSITA would know both of these items and therefore would use a vacuum and also would pre-treat the substrate. As applied to claim 19 wherein Applicants recite *inter alia* perforating the substrate... it is held that in order to make a plurality of these electrical circuits one normally will deposit the conductive materials onto a large substrate and perforate that substrate in order to provide a plurality of circuits from a large substrate. That is to say it is old in the art to perforate a conductive substrate at a predetermined location etc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4563. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).



C. J. Arbes
Primary Examiner
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